

What is claimed is:

1. A production capability simulating system for simulating rough-cut capacity planning (RCCP) and material requirements planning (MRP) of a manufacturing enterprise in order to make master production schedules (MPSSs), the production capability simulating system comprising:

at least one client computer;

a database server;

an MPS management server, comprising:

a data retrieving module for obtaining data from external information systems;

an MPS generating module for generating an original MPS, and for amending the original MPS to be an optimized MPS; and

a simulating module for simulating the RCCP and the MRP based on the original MPS; and

a network interconnecting the at least one client computer, the database server, and the MPS management server.

2. The production capability simulating system as claimed in claim 1, wherein the external information systems comprise a purchase order information system, an inventory information system, and a manufacturing order information system.

3. The production capability simulating system as claimed in claim 1, wherein the simulating module comprises:

a simulation mode selecting sub-module for selecting various simulation modes for performing simulation, the various simulation modes comprising an RCCP simulation mode and an MRP simulation mode;

an RCCP simulating sub-module for simulating the original MPS in the RCCP simulation mode;

an MRP simulating sub-module for simulating the original MPS in the MRP

simulation mode; and

a simulation report generating sub-module for generating simulation reports based on simulation results generated by the RCCP simulating sub-module and the MRP simulating sub-module.

4. A production capability simulating method, the method comprising the steps of:

- (a) selecting an original MPS to be simulated;
- (b) selecting a simulation mode;
- (c) simulating the original MPS and generating simulation results;
- (d) generating a simulation report based on the simulation results;
- (e) determining whether there are one or more contingencies that require rescheduling of the original MPS;
- (f) amending the original MPS if there are said contingencies, and returning to step (c) regarding the amended MPS; and
- (g) generating an optimized MPS if there are no said contingencies or when said contingencies have been eliminated by applicable previous steps hereof, and generating weekly production schedules based on the optimized MPS.

5. The production capability simulating method as claimed in claim 4, wherein the selected simulation mode at step (b) is an RCCP simulation mode.

6. The production capability simulating method as claimed in claim 4, wherein the selected simulation mode at step (b) is an MRP simulation mode.

7. The production capability simulating method as claimed in claim 5, wherein the simulation report includes information on one or more workstations that have insufficient production capability.

8. The production capability simulating method as claimed in claim 6, wherein the simulation report includes information on one or more production materials that are in shortage.

9. The production capability simulating method as claimed in claim 5, wherein said contingencies comprise insufficient production capability of one or more workstations.

10. The production capability simulating method as claimed in claim 6, wherein said contingencies comprise one or more insufficient production materials.

11. A production capability simulating method comprising:

- (a) retrieving relevant data;
- (b) maintaining MPS (Master Production Schedule) parameters;
- (c) generating an original MPS;
- (d) simulating RCCP (Rough-Cut Capacity Planning) and MRP (Material Requires Planning);
- (e) amending the original MPS based upon a simulation result, if required; and
- (f) Generating an optimized MPS.